



Europäisches Patentamt

European Patent Office

Office européen des brevets



EP 0 810 038 A3

(12)

### **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 14.04.1999 Bulletin 1999/15

(51) Int Cl.6: **B24C 5/04**, B05B 15/06

(11)

(43) Date of publication A2: 03.12.1997 Bulletin 1997/49

(21) Application number: 97303601.5

(22) Date of filing: 28.05.1997

(84) Designated Contracting States: CH DE FR GB LI SE

(30) Priority: 29.05.1996 US 655066

(71) Applicant: INGERSOLL-RAND COMPANY
Woodcliff Lake New Jersey 07675-8738 (US)

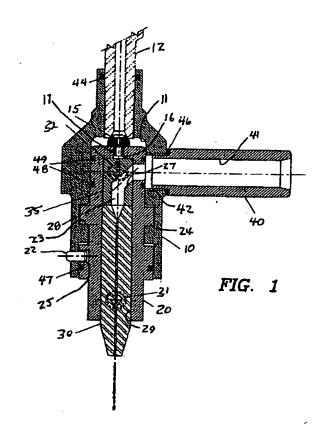
(72) Inventor: Munoz, Jose P. Brighton, Michigan 48116 (US)

(74) Representative: Feakins, Graham Allan et al RAWORTH, MOSS & COOK RAWORTH HOUSE 36 Sydenham Road Croydon, Surrey CRO 2EF (GB)

### (54) Quick change nozzle assembly for waterjet cutting

(57) A quick change nozzle assembly for waterjet cutting has a nozzle body (20) separable from a nozzle cap (10), the nozzle body (20) providing a quick change assembly including a feed tube handle (40) making

change possible without the use of tools, the separable nozzle body having included and aligned therein the required nozzle wear components such as a wear insert (35) and a focus tube (20).



## EP 0 810 038 A3



## EUROPEAN SEARCH REPORT

Application Number

EP 97 30 3601

	DOCUMENTS CONSID	ERED TO BE RELEVANT			
Category	Citation of document with it of relevant pass	ndication, where appropriate, sages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.6)	
X	AL) 3 March 1992 💛		1,2	B24C5/04 B05B15/06	
Α '	EP 0 450 946 A (SPR 9 October 1991 * column 4, line 43 figures 1,6 *	AYING SYSTEMS CO) - column 8, line 47;	1		
A	EP 0 437 168 A (POS * column 3, line 35 figure 1 *	SIS CORP) 17 July 1991 - column 4, line 14;	1		
A	DE 15 00 603 A (SPR 12 June 1969		1		
	* page 4, line 5 -	page 5; line 2; figures	•		
				TECHNICAL FIELDS SEARCHED (Int.Cl.6)	
				B24C B05B B26F	
	The present search report has	been drawn up for all claims			
	Place of search	Date of completion of the search		Examiner	
	MUNICH	18 February 1999	18 February 1999 Inn		
X : parti 7 : parti 3300 A : tech	ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone localizing relevant if combined with anotument of the same category notogical background written disclosure	T : theory or principle E : earlier patent doci after the filling date her D : document cited in L : document died for	the application other reasons	shed on, or	

# EP 0 810 038 A3

### ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 97 30 3601

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-02-1999

	Patent document ed in search repo		Publication date		Patent family member(s)	Publicatio date
US	5092085	A	03-03-1992	us	5144766 A	08-09-19
EP	0450946	, <b>A</b>	09-10-1991	AU AU CA DE DE JP	630797 B 7405691 A 2039681 A 69110335 D 69110335 T 4227870 A	
EP	0437168	A ;	17-07-1991	US US DE DE JP	5190224 A 5018670 A 69003233 D 69003233 T 3208559 A	28-05-19 14-10-19 05-01-19 11-09-19
DE	1500603	A	12-06-1969	NONE		
		;				,
			:			٠.
		:	•			:
				•	. :	

o Tropological Section For more details about this annex : see Official Journal of the European Patent Office, No. 12/82 is annex : see Oniour See...

3

en de la Maria de Maria de la Companya de la Compan

en de la composition La composition de la

A CONTROL OF THE CONT

Fig. 1. The Company of the

THIS PAGE BLANK (USPTO)